

## EXHIBIT A

## UNITED STATES PATENT OFFICE

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## NEEDLE THREADER

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## 1 Claim. (Cl. 223-99)

This invention relates to certain new and useful improvements in needle threaders.

The primary object of this invention is to provide a needle threader of the type employing a loop formed of a filament of thin gage wire having the free ends thereof secured to a button or other hand operating device capable of being slid in a hollow handle so that the wire filament may be retracted and completely housed within the handle.

A further object of the invention is to provide a needle threader of the above mentioned character having a threading element formed from a thin gage piece of stiff wire, shaped in such a manner as to cause the needle threader to be easily guided within the handle when the device is retracted and in its inoperative position.

A still further object of this invention is to provide a needle threader of the above mentioned character having a peculiarly shaped point so that after the thin gage wire loop has been passed through the eye of the needle, the needle may be retained thereon in a frictional manner.

Other objects and advantages of the invention will become apparent during the course of the following description, taken with the drawing wherein,

Figure 1 is a top plan view of an embodiment of the invention illustrating the wire loop member extended ready for insertion in the eye of a needle so that the thread may be passed through the loop with the resultant drawing of the thread through the eye of the needle thereby completing the threading operation;

Figure 2 is a modified form of the invention illustrating the thin gage wire loop member bent along portions of its length inwardly for frictionally retaining the needle in place while the thread is being extended through the loop formed by the thin gage wire;

Figure 3 is a top plan view of the preferred form of needle threader illustrating the manner of its use;

Figure 4 is a top plan view of the needle threader illustrating the thin gage wire loop member retracted within the handle of the needle threader;

Figure 5 is an end elevation of the needle threader illustrating the manner in which the thin gage wire loop is retracted within the hollow handle and illustrating the buttons protruding from opposite sides thereof;

Figure 6 is a transverse cross-sectional view taken on line 6-6 of Figure 4, looking in the

direction of the arrows, illustrating the manner in which the inner ends of the thin gage wire are anchored to the slide button or manual operating piece; and

Figure 7 is a still further modified form of the invention illustrating the free ends of the thin gage wire loop secured to a handle formed of twisted wire.

In the drawing, wherein for the purpose of illustrating the invention and wherein like reference characters will be employed to designate like parts throughout the same, attention is first directed to Figures 1, 3, 4, 5, and 6 wherein the reference character 5 will generally be employed to designate a wire loop member formed from thin gage stiff wire being bent upon itself as at 6 and having portions 7 extending parallel for a portion of their length and bent inwardly as at 8 to extend parallel for the remainder of their length.

The inner ends of the thin gage wire member 5 are secured to a button by means of solder or the like and said free ends converge inwardly toward the manual operating button 10 as at 11.

The needle threading loop member above described is adapted to be slidably mounted within a handle 12 which is preferably formed of sheet metal bent in such a fashion as shown in Figure 6 as to form a slideway 13 for housing the needle threading loop member.

The manual operating button is adapted to be guided in opposite slides 14 formed in the handle member 12 and the button 10 is prevented from displacement by means of a washer 15 secured to the reduced end 16 of the button by spinning or flattening.

As shown in Figure 6, the free ends 11 of the thin gage wire loop member 5 are secured in cut-away portions 17 formed on opposite points of the button 10 and it is obvious that said free ends 11 may be securely anchored to the button by solder or by compressing the button to cause the free ends 11 to be partially anchored therein.

As shown in Figure 2, the handle of the needle threader is substantially identical as at 12a and is also provided with a longitudinal slot 14a on opposite sides thereof for slidably guiding the button 10a. The needle threading loop 5' also comprises a piece of thin gage wire return bent as at 6' and is further provided with parallel portions 7' extending parallel for a portion of the length whereupon they are bent inwardly in a curved manner as at 8' and extend outwardly as at 8a to form a loop for receiving the thread T. The bent wire portions 8a converge inwardly as

at 8b and continue in parallel relation for the remainder of their length.

The inner ends of the wire loop member 5' are secured to the button 10a in the same fashion as the inner ends 11 are secured to the button 10.

The needle N when being threaded may be received upon the reduced inwardly directed portions 8' whereby the thread T may be extended to the loop 5' and upon withdrawal of the thin wire loop 5' the thread T may be carried therewith and through the eye of the needle N. The operation of the needle threader shown in Figs. 1, 3, 5, 4, and 6 is substantially identical to the operation as shown in Figure 2 and in Figure 1, the needle threading loop 5 is in position or alignment with the needle N to be extended through the eye thereof whereby the thread T may be passed through the loop 5 and the loop withdrawn from the eye of the needle, thereby leaving the thread in position within the eye.

In Figure 7 is shown a still further modified form of the invention and the threading loop A is formed of thin gage wire return bent as at B and extending in a straight line or in parallel relation for a portion of its length as at C. The loop

A is spread so that the opposite wire members are arcuately curved as at B and the free ends of the loops A are secured together by whipping E thereby forming a handle having a loop F at the free ends so that the device may be hung upon a hook or other form of support.

The needle threading device shown in Figure 7 may be used in a similar fashion to the threader shown in Figures 1 to 6 inclusive.

I claim:—

A needle threader comprising a hollow handle having parallel side walls, said walls having longitudinally extending slots therein, a double headed button having the shank portion extending through the slots and slidable therein, a thin gage wire bent upon itself with the portions adjacent the bight being parallel and adjacent each other, the remaining portions of the wire being further spaced apart and parallel, with the free ends thereof secured to the shank portion of the button, the wire and handle being relatively proportioned whereby the wire may be entirely confined in the handle.

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## EXHIBIT B

## EXHIBIT C